ORIGINAL

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:	)	
	)	
Implementation of Section 304 of the Telecommunications Act of 1996	)	CS Docket No. 97-80
	)	
	)	
Commercial Availability of Navigation Devices	)	
	)	

COMMENTS OF COMCAST CABLE COMMUNICATIONS, INC.

Comcast Cable Communications, Inc. ("Comcast") hereby submits the following Comments, filed pursuant to the Commission's Further Notice of Proposed Rulemaking ("Further Notice") in the above-captioned proceeding.[1]

Section 76.1204(a)(1) of the Commission's rules provides that, as of January 1, 2005, no multichannel video programming distributor ("MVPD") subject to the rule shall place in service new navigation devices for sale, lease, or use that perform security functions in a single integrated device.[2] In the Further Notice, the Commission sought comment on whether the January 1, 2005 date for the phase-out of navigation devices with integrated security features remains appropriate and the impact an earlier or later date would have on manufacturers and MVPDs.[3] Because any acceleration of the ban on integrated devices will hinder the development

---

[1] *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Further Notice of Proposed Rulemaking and Declaratory Ruling, FCC 00-341, September 18, 2000 ("Further Notice").

[2] 47 C.F.R. § 76.1204(a)(10) (1999).

[3] *Id.* at ¶11.

014

of advanced services, harm competition and disrupt Comcast's equipment procurement plans, Comcast opposes an acceleration of the date.

Discussion

Section 304 of the Telecommunications Act of 1996 requires the Commission to adopt rules which ensure the commercial availability of navigation devices while protecting the security of programming and other services offered over cable television systems and other MVPDs.[4] Pursuant to this mandate, the Commission imposed the security device separation requirements contained in Section 76.1204 of the Commission's rules.[5] In addition, the Commission determined that MVPDs' ability to offer navigation devices with integrated security functions should be phased-out, and prohibited MVPDs from selling or leasing new integrated devices as of January 1, 2005.[6] In setting the January 1, 2005 phase out date, the Commission sought to "minimize the impact of [the phase out of integrated boxes] on manufacturers and MVPDs, allowing manufacturers sufficient time to respond to equipment modifications."[7] As discussed below, the advancement of the January 1, 2005 date would work at cross-purposes with the Commission's stated goals. Any acceleration of the phase-out date would be unduly burdensome on Comcast and other cable operators and would delay the provision of advanced services to Comcast's customers.

---

[4] 47 U.S.C. § 549.

[5] See *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Report & Order, 13 FCC Rcd 14775 (1998) ("Navigation Devices Order"); *Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, Order on Reconsideration, 14 FCC Rcd. 7596 (1999) ("Navigation Devices Recon. Order"); *General Instrument Corp. v. FCC*, Case No. 98-1420 (D.C. Cir. Jun. 6, 2000).

[6] *Navigation Devices Order* at ¶69.

[7] *Id.*

I. Acceleration of the Ban on Integrated Devices Will Impede the Delivery of New Services

Unlike retailers, MVPDs are in the business of providing not merely sales but continuous service to their customers. In order to provide the consistent quality of service required to attract and keep customers, Comcast must ensure that its services are stable, capable of growth and can be technologically enhanced on an ongoing basis. The process of ensuring that these goals are met is long and complex. Over the past two years, Comcast has focused its primary efforts on the deployment of digital cable service, which provides dramatically increased channel capacity, and interactive program guides. While this first phase of the digital cable roll-out continues, Comcast is shifting its focus to other advanced services. Comcast anticipates that video on demand ("VOD") services will be introduced in 2001 and interactive television will follow in 2002. This staggered deployment of new services is intended to make certain that each new service is introduced with adequate attention and resources in its critical first years to ensure consumer acceptance and technological reliability. If the Commission advances the date of the integrated devices ban Comcast would be forced to divert its attention and resources away from its existing devices and systems, jeopardizing the timely and successful deployment of advanced services.

Ongoing equipment tests and trials would be slowed down and delayed because the efforts of the development community would necessarily be redirected to focus on developing platforms for the new digital host devices sooner in the developmental cycle, rather than later as had been anticipated in reliance on the Commission's earlier decisions. For example, only through extensive field testing can it be ensured that newly deployed platforms will have the necessary capacity to meet demand. A system delivering adequate service for 1,000 customers may be overwhelmed by the demands of hundreds of thousands of customers. But with adequate

time and testing Comcast can ensure that the components and system platforms used to deliver advanced services are "scalable," that is, capable of increasing capacity in response to increased demand. Although Comcast attempts to build "scalability" into its systems (for instance, moving "processing intensive" tasks from single server systems to "distributed server environments"), some problems only become apparent after equipment is deployed in the field. For example, during the initial roll-out of digital cable, Comcast deployed a new digital system controller. The system controller, which was designed to interface with individual digital converter boxes to determine services authorized to pass through each box, did not have enough processing capability to handle the heavy data traffic of an entire cable system. Comcast was forced to replace the system controller with another controller that required the installation of additional software to accomplish the same tasks as the original system controller, which further delayed the deployment of digital services. In other cases converters may "lock-up" or delete certain services or a program guide. This kind of scalability issue occurs with virtually every roll out of a new service and requires time and resources to resolve.

In order to keep pace with competition, Comcast must not only deliver advanced services to its customers but also lay the foundation for new service capabilities and functionalities. To this end, Comcast is currently implementing "middleware" software that increases the functionality of existing boxes by facilitating commands between new end user applications and existing set-top devices.[8] However, while applications written to interface with this middleware software will operate on any set-top box using it, the middleware itself must be adapted to specific devices. As such, efforts to implement middleware and associated applications across

[8] *See* Barthold, Jim, "Cable's Middleware Sandwich," CABLE WORLD, Nov. 6, 2000 at 16.

Comcast's customer base will also be delayed if it is forced to divert resources to developing new platforms for host devices sooner rather than later. The time and resources of both operators and equipment vendors are simply not available to accomplish all of these tasks simultaneously if the current time frame to ban the deployment of integrated devices is advanced.

Navigation devices are a critical component of Comcast's digital platform, and any errors in configuring either the navigation devices or the platforms over which they operate can result in partial or complete loss of service to Comcast's customers. It has taken two years to achieve acceptable performance from the current "simple" digital video platforms that Comcast has deployed. In addition to the time and effort necessary to deploy new services over existing platforms which interface with integrated navigation devices, deployment of advanced services using the digital host/POD technology will itself require time and testing. Comcast cannot simply "plug in" new elements such as separate digital hosts without degrading performance unless all necessary field testing processes are followed. Existing systems will only provide acceptable performance if they are not "disturbed" with new software or hardware that has not undergone adequate testing and integration.

As the Commission can appreciate, the development and deployment of new advanced services is a complicated process and follows a natural evolution. Prior to widespread deployment, new system components must undergo a series of laboratory tests and field trials, each of which may result in hardware and software modifications. Successful field trials allow small scale deployments to trial users. Further modifications and adjustments are inevitably required as the new services are rolled out to larger user groups. In this manner, the procurement and delivery of new services over an entire customer base goes through several cycles of testing and refinement.

Moreover, each time new components are added to a platform they must be integrated both with converter hardware (the client side) and the headend side (the server side). Integration of hardware and software on the client and server sides of these platforms and performance levels must be achieved for any existing functionality of a system, as well as incremental functionality that is added as the platform is improved and modified. Comcast is in the midst of this process in its deployment of new advanced services and, therefore, the premature deployment of unproven technology would almost certainly result in unacceptable disruption to the introduction of these services across Comcast's customer base. Acceleration of the ban on integrated devices will compromise Comcast's ability to ensure a successful roll out of advanced services over its existing systems and, subsequently, over digital host/POD platform by depriving Comcast of the time needed to properly test, refine and integrate advanced services and new technology.

II. Acceleration of the Ban on Integrated Devices Will Disrupt Equipment Procurement

The acceleration of the phase-out deadline also will adversely impact Comcast's ability to obtain the equipment necessary to comply with the integrated devices ban. Only after Comcast and its vendors are able to carefully consider the requirements for new hardware, software, and back office support, among other variables, can the necessary level of development and stability of POD and host configurations be achieved within current timeframes. In order to insure a sufficient supply of equipment at reasonable prices, cable operators such as Comcast must enter into multi-year purchase agreements with equipment vendors. These multi-year agreements represent a substantial commitment to the equipment that is ordered, and the operator must be confident that the equipment will work before making such a commitment. The only way to verify performance is to test (and re-test) the equipment in the field. These trials can take three

to five years before the operator is assured that the equipment will work with existing systems. An acceleration of the phase-out deadline of integrated devices would force Comcast to either place large orders for unproven equipment or risk higher prices and uncertain availability of the necessary digital host devices. Neither result, when coupled with the adverse impact on the current roll out of digital and VOD services and the anticipated introduction of interactive services, would serve Comcast's customers' interests.

III. Accelerating the Ban on Integrated Devices Will Place the Cable Industry at a Competitive Disadvantage

There is no question that the resulting slow down and interruption of the roll out of new advanced services will adversely affect Comcast's customers. An accelerated phase-out date, however, will also place Comcast and other cable operators at a competitive disadvantage. Competition in the marketplace today from DBS providers is particularly strong. In the past year alone, DBS subscribership has increased from just over 10 million subscribers to just under 13 million, an increase of almost 30 percent – much of which was at the direct expense of cable subscribership.[9]

The success of DBS providers has been largely due to the technological advantages conferred by the DBS platform. DBS providers, using proprietary digital technologies not available when Comcast's systems were constructed, are able to provide significantly larger channel capacities than the most advanced analog cable systems.[10] Moreover, DBS companies' proprietary digital platforms have enabled them to aggressively deploy new advanced services.

---

[9] *See Comments of the National Cable Television Association*, in CS Docket No. 00-132 at 7-10, filed Sept. 8, 2000.

[10] *See Reply Comments of Comcast Corporation* in CS Docket No. 00-132 at 13-14, filed September 29, 2000.

DirecTV has already begun offering America Online's AOL-TV and will soon launch Microsoft's Ultimate TV, both of which provide e-mail, shopping and programming information; interactive television content through its partnership with Wink; and a satellite receiver with an integrated TiVo personal video recorder.[11] Meanwhile, EchoStar already offers a set-top receiver with Microsoft's WebTV[12] and later this year will deploy OpenTV's digital interactive software in at least one million EchoStar set-top boxes, while also initiating StarBand two-way, high-speed Internet service through its partnership with Microsoft and Gilat Satellite Networks Ltd.[13] All of these services promise to increase the competitive pressures on cable operators like Comcast.

In order to survive in this competitive environment, Comcast must move quickly to deliver advanced services and such services must be delivered with a consistent level of excellence. As discussed herein, the roll-out of any new service at an acceptable level of quality requires an extensive process of field testing, equipment modifications, and re-testing the services and equipment to gradually larger groups of systems and subscribers. Comcast cannot sustain such efforts on two different technological platforms at the same time. Comcast must have the time necessary to develop, test and deploy advanced services over its existing systems and platforms before turning its resources towards the deployment of these services on non-

---

[11] *See, e.g.*, Monica Hogan, "DirecTV's Donald Ready for Interaction," MULTICHANNEL NEWS, Sept. 18, 2000, at 1 (DirecTV expects its interactive offerings to lead to its "hottest fourth-quarter selling season ever"); "DirecTV Interactive Service Available Soon to Millions of DirecTV Customers," PR NEWSWIRE, Oct. 20, 2000; Glen Dickson, "TiVo/DirecTV Boxes Hit the Streets," BROADCASTING & CABLE, Nov. 13, 2000 at 46.

[12] Saul Hansell, "What's the Right Gizmo for TV Interactivity? It All Depends," NEW YORK TIMES, Sept. 20, 2000, at 40.

[13] "OpenTV shares climb 5 pct on Motorola pact," REUTERS, Sept. 18, 2000; Paige Albontak, "Intro to Digital 101, "BROADCASTING & CABLE, Nov. 13 at 41.

integrated devices. Accelerating the ban on integrated devices will deprive Comcast of this time, hinder the deployment of advanced services and, ultimately, jeopardize Comcast's competitive position in the video programming marketplace.

CONCLUSION

The current schedule for the phase out of integrated devices is the minimum period that can be supported given the necessary timelines to (i) roll-out advanced services on existing platforms, (ii) ensure the stability and scalability of the digital host/POD platform and (iii) order the necessary equipment in sufficient quantities to ensure reasonable cost and availability. For the foregoing reasons, Comcast opposes any acceleration of the ban on integrated navigation devices.

Respectfully Submitted,

COMCAST CABLE COMMUNICATIONS, INC.

By: _____
Peter H. Feinberg
Jeffrey J. Gee

Dow, Lohnes & Albertson, PLLC
1200 New Hampshire avenue, N.W.
Washington, DC 20036
202-776-2000

Its Attorneys

OF COUNSEL:

Thomas R. Nathan, Esq.
Senior Vice President and General Counsel
Comcast Cable Communications, Inc.
1500 Market Street
Philadelphia, PA 19102-2148
212-665-1700

Mr. James R. Coltharp
Senior Director, Public Policy
Comcast Corporation
2001 Pennsylvania Avenue, N.W., Suite 500
Washington, DC 20006

November 15, 2000